

Date: Friday, 11/04/2008 9:01:46 AM
 User: Julie Lecocq

Process Sheet

| | | | | | |
|-----------------------|---------------------------------------|--|------------------|------------------------------|--|
| Customer | : CU-DAR001 Dart Helicopters Services | | Drawing Name | : TUBE ASSEMBLY | |
| Job Number | : 38550 | | Part Number | : D2003033 | |
| Estimate Number | : 10105 | | Drawing Number | : UNDER REVIEW | |
| P.O. Number | : | | Project Number | : N/A | |
| This Issue | : 11/04/2008 S.O. No. : | | Drawing Revision | : B | |
| Prsht Rev. | : NC | | Material | : | |
| First Issue | : / / Type : SMALL /MED FAB | | Due Date | : 21/04/2008 Qty: 6 Um: Each | |
| Previous Run | : 30133 | | | | |
| Written By | : | | | | |
| Checked & Approved By | <u>JD 08.4.11</u> | | | | |
| Comment | : Est Rev:B 99.11.11 Re-format EC | | | | |

Additional Product

Job Number:



| Seq. #: | Machine Or Operation: | Description: |
|---------|---|-------------------------------------|
| 1.0 | M2003033 | 6051-T8 Tube .500 x .035W 14.810 FS |
| | | 29.62" x 6 = 177.72" |
| | Comment: Qty.: 2.5914 f(s)/Unit Total : 15.5484 f(s) | M107166 |
| | Pick: Material: 1/2" AE x 0.035" wall AISI 304 SS tubing | Batch: ml |
| 2.0 | SMALL FAB 1 | SMALL & MEDIUM FAB RESOURCE 1 |
| | Comment: SMALL & MEDIUM FAB RESOURCE 1 | ml 08/04/16 X6 |
| | 1-Form tube as per template D2003-033 | |
| 3.0 | QC5 | INSPECT WORK TO CURRENT STEP |
| | Comment: INSPECT WORK TO CURRENT STEP | 08/04/17 X6 |
| 4.0 | M26506 | Firesleeve-crkl .375IDia |
| | Comment: Qty.: 2.6030 f(s)/Unit Total : 15.6177 f(s) | |
| | Pick: Material: M2650-6 Heat sleeve | |
| | Batch: M106781 | ✓ ml |
| 5.0 | MS208198J | Sleeve |
| | Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s) | |
| | Qty Part# Desc Batch: | |
| | 2 MS20819-8J Sleeve M107650 | ✓ ml 08/04/17 |

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Friday, 11/04/2008 9:01:46 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 38550

Part Number: D2003033

Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 AN8188J Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s)

Qty Part# Desc Batch:
2 AN818-8J Nut M106074

✓ ml

7.0 D2182045 Heat Shrink 4.5" Long



6 x 1.5"



Comment: Qty.: 1.0000 Each(s)/Unit Total : 6.0000 Each(s)

1 D2182-045 Heat Shrink 4.5" Long Batch: 21864 A

ml

, 8.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

OK
ml
1-Cut: 304 Tubing 29.62" long as per Dwg D2003

→ CONFIRM CUT LENGTH WITH DWG. 108.04.17

2-Cut: Heat Sleeve 29.75" long as per Dwg D2003

108.04.17

3-Assemble as per Dwg D2003

ml 08/04/17 x6

9.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/04/17 (X6)

10.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: ST192

AS 08/04/17 (X6)

11.0 QC21 FINAL INSPECTION/W/O RELEASE



08/04/18 (X6)

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf 08-04-18

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

DART



| | | | |
|----------|----------|--|--------------|
| DESIGN | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | APPROVED | DRAWING NO. | REV. B |
| DATE | | D2003 | SHEET 1 OF 2 |
| 99.06.08 | | TITLE | |
| | | SCALE | |
| A | 90.04.09 | NEW ISSUE | |
| B | 99.06.08 | UPDATE PER TEMPLATES; ADD P/N'S; 0.025 TUBING NOW 0.035 (TSR1049) | |

RELEASED
99.06.08 RE

UNDER REVIEW

CC 03.21 CB

Some flat
lengths wrong

06.04.11

| P/N | TEMPLATE | HEATSLEEVE LENGTH ¹ | CUT LENGTH OF TUBE ² | MS20819-BJ SLEEVE | AN818-8J NUT | MS20819-8D SLEEVE | AN818-8D NUT | MS20819-6D SLEEVE | AN818-6D NUT | DESC | MATERIAL ^{4/8/7} | VENDOR OR SPEC |
|-----------|-----------|--------------------------------|---------------------------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|------------|----------------------------|----------------|
| D2003-001 | T2003-001 | 5.2 | 6.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-003 | T2003-003 | 7.3 | 8.12 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-005 | T2003-005 | 9.8 | 10.62 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-007 | T2003-007 | 20.0 | 19.63 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-009 | T2003-009 | 12.38 | 12.44 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-011 | T2003-011 | 33.31 | 32.38 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-013 | T2003-013 | 12.7 | 13.54 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-015 | T2003-015 | 17.2 | 18.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-017 | T2003-017 | 17.0 | 16.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-019 | T2003-019 | 9.8 | 10.62 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-700/6 |
| D2003-021 | T2003-021 | N/A | 2.25 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-700/6 |
| D2003-023 | T2003-023 | 4.5 | 5.33 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-700/6 |
| D2003-025 | T2003-025 | 9.8 | 10.60 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-700/6 |
| D2003-027 | T2003-027 | 7.25 | 7.38 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-700/6 |
| D2003-029 | T2003-029 | 17.2 | 18.00 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-700/6 |
| D2003-031 | T2003-031 | 14.6 | 15.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-033 | T2003-033 | 29.75 | 29.62 | 2 | -2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-035 | T2003-035 | 24.7 | 27.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-037 | T2003-037 | 24.81 | 23.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-039 | T2003-039 | 34.0 | 34.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-041 | T2003-041 | 6.0 | 5.88 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-043 | T2003-043 | 11.7 | 10.75 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-045 | T2003-045 | 3.50 | 2.44 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-047 | T2003-047 | 5.56 | 5.56 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-049 | T2003-049 | 33.2 | 34.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-077 | T2003-077 | N/A | 6.25 | | | | | 1 | 1 | JET | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-101 | T2003-101 | 13.25 | 13.13 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-600/6 |
| D2003-103 | T2003-103 | 12.38 | 12.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-600/6 |
| D2003-105 | T2003-105 | 10.75 | 10.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-600/6 |
| D2003-107 | T2003-107 | 12.75 | 12.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-600/6 |
| D2003-109 | T2003-109 | 8.25 | 8.125 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-600/6 |
| D2003-111 | T2003-111 | 4.75 | 4.625 | | 2 | 2 | | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WWV-T-600/6 |
| D2003-116 | T2003-116 | 4.0 | | | | | | | | HEATSLEEVE | M2650-20 CRINKLE-SOFT | STRATOFLEX |
| D2003-120 | T2003-120 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLEX |
| D2003-14 | T2003-14 | 4.0 | | | | | | | | HEATSLEEVE | M2650-14 CRINKLE-SOFT | STRATOFLEX |
| D2003-16 | T2003-16 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLEX |
| D2003-205 | T2003-205 | 9.75 | 9.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |
| D2003-207 | T2003-207 | 3.75 | 3.75 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WWV-T-700/6 |

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WITHOUT NOTICE
WORK ORDER
NO. 38850

DART

| | | | |
|----------|----------|---|--------------|
| DESIGN | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | APPROVED | DRAWING NO. | REV. B |
| AE | CP | D2003 | SHEET 2 OF 2 |
| DATE | | TITLE | SCALE |
| 99.06.08 | | 206 CABIN HEATER TUBE ASSEMBLIES NTS | |

RELEASED

99.06.08 KE

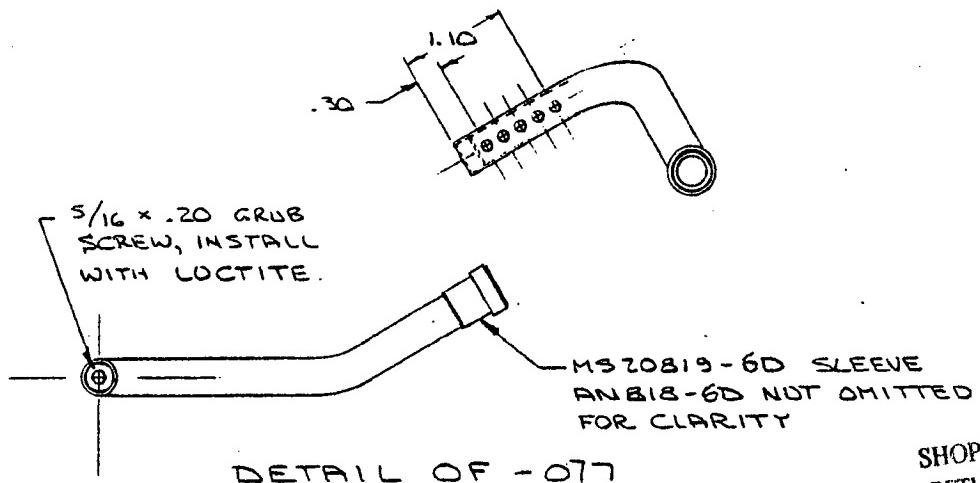
UNDER REVIEW

06.08.21 CB
Some flat wrong lengths

08.04.11

Notes:

- (1) USE STRATOFLEX M2650-6 CRINKLE-SOFT HEATSLEEVE.
- (2) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATES.
- (3) TUBES TO BE FLARED 30° TO MATE WITH FITTINGS MADE TO MS33514.
- (4) ENSURE SEAMLESS TUBING IS USED.
- (5) INSTALL HEATSLEEVE OVER ALL TUBES WITH A DESIGNATED LENGTH OF HEATSLEEVE PER THE PARTS LIST.
- (6) 5052 (WW-T-700/4) TUBING MAY BE SUBSTITUTED WHEN 6061 TUBING IS NOT AVAILABLE.
- (7) 0.049 WALL THICKNESS CRES TUBING MAY BE SUBSTITUTED WHEN 0.035 IS NOT AVAILABLE.
- (8) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.



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NO. 38550